

REMARKS

I. Introduction

Claims 20 to 29 have been added. Claims 4 to 29 are pending. Claims 4 and 12 have been amended. No new matter has been added. Support for the amendments to claims 4 and 12 and the new claims can be found throughout the specification. For example, support for the amendments to claims 4 and 12 can be found in the specification at page 11, lines 5 to 21 and page 21, line 37 to page 27, line 21.

Reconsideration of the present application is requested.

II. Rejection of Claims 4 to 7 and 9 Under 35 U.S.C. § 102(e)

Claims 4 to 7 and 9 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,785,826 to Durham et al. ("Durham"). It is respectfully submitted that Durham does not anticipate any of claims 4 to 7 and 9, for at least the following reasons.

Claim 4, as herein amended without prejudice, recites, *inter alia*, the following:

an enabling/disabling device adapted to at least one of: i) enable or disable power supply to a number of the data processing units, and ii) block full clock speed for the number of data processing units;
* * *

wherein the enabling/disabling element is adapted to be data driven, such that the enabling/disabling device at least one of disables the power supply and blocks the full clock speed for one of the number of the data processing units responsive to one of (a) an unavailability to the one processing unit of data that is to be processed by the one processing unit and (b) an inability to accept the data that is to be processed by the one processing unit.

In accordance with example embodiments of the present invention, power consumption of a processing array can be reduced by disabling power or clock application to given array elements. This may be achieved by, for example, driving the enabling/disabling device with data. For example, in one embodiment, the enabling/disabling device enables a clock or power to an array element only when data to be processed by the array element is available for the array element or the data to be processed by the array element can be accepted, e.g., by a downstream element.

In Durham, functional units simply monitor their own power dissipation. Each particular functional unit, e.g., 206, 212, 218 and 224, tracks its own internal operations

and power dissipation, Column 3, lines 43 to 50. According to Durham, each functional unit determines independently by its own methods and instructions when power dissipation with the functional unit is at an unacceptable level. Column 3, lines 51 to 54. In the “Response to Arguments” section, the Office Action asserts that the enabling and disabling is data driven since the power measurements of Durham are data. However, Durham does not disclose or even suggest an enabling/disabling device that is data driven, where the data is to be processed by a processing unit for which the enabling/disabling unit enables or disables power and/or blocks a full clock speed depending on the availability to the processing unit or the ability of acceptance of the data.

For at least this reason, Durham does not anticipate claim 4, or any of claims 5 to 7 and 9, which depend from claim 4. Withdrawal of the rejection over Durham is therefore respectfully requested.

III. Rejection of Claims 4, 5, and 7 to 19 Under 35 U.S.C. § 102(e)

Claims 4, 5, and 7 to 19 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,996,083 to Gupta et al. (“Gupta”). It is respectfully submitted that Gupta does not anticipate any of claims 4, 5, and 7 to 19, for at least the following reasons.

Gupta does not disclose or even suggest an enabling/disabling device which is data driven, as recited in claim 4. Gupta describes that a power control register is set by software for a given functional unit when that functional unit is not required by the software. See, e.g., col. 3, lines 48 to 50.

In accordance with claim 4, an enabling/disabling device is data driven, where the disabling of the power supply and/or the blocking of a full clock speed for a data processing unit is responsive to unavailability of or inability to accept data to be processed the data processing unit. Thus, unlike Gupta, claim 4 provides for the disabling of the power supply and/or the blocking of the full clock speed for a unit that is to be used.

For at least the forgoing reasons, Gupta does not anticipate claim 4, or any of claims 5 and 7 to 11 which depend from claim 4.

As regards claim 12, the claim, as herein amended without prejudice, recites, *inter alia*, the following:

*an enabling/disabling device adapted to, in response to an availability status of data to be processed by at least one respective one of the data processing units, at least one of:
i) selectively enable or disable power supply to the at least*

one respective one of the data processing units, and ii) selectively block full clock speed for the at least one respective one of the data processing units.

Gupta provides for shutting down functional units that a power control register determines will not be required for execution of blocks of code; Gupta does not disclose or even suggest an enabling/disabling device that selectively enables or disables a power supply to and/or selectively blocks full clock speed for a data processing unit responsive to an availability status of data to be processed by the data processing unit.

For at least the forgoing reasons, Gupta does not anticipate claim 12, or any of claims 13 to 16 which depend from claim 12.

As regards claim 17, the claim recites, *inter alia*, the following:

an enabling/disabling device adapted to make a clock signal available to at least one respective one of the data processing units when an operand is ready for the at least one respective one of the data processing units.

Gupta refers to shutting down a functional unit if it is determined that it will not be used for a block of code. However, if this determination is not made, then the unit remains functional regardless of whether an operand is currently ready for the unit. Nowhere does Gupta disclose or even suggest making a clock signal available to a data processing unit when an operand is ready for the unit.

For at least the forgoing reasons, Gupta does not anticipate claim 17, or either of claims 18 and 19 which depend from claim 17.

For at least these reasons, Gupta does not anticipate any of claims 4, 5, and 7 to 19. Withdrawal of the rejection over Gupta is therefore respectfully requested.

IV. New Claims 20 to 29

New claims 20 to 29 have been added herein. It is respectfully submitted that new claims 20 to 29 do not add any new matter and are fully supported by the present application, including the specification. It is therefore respectfully submitted that the cited references do not disclose or suggest all of the features recited in claim 20, so that claim 20 and its dependent claims, *i.e.*, claims 21 o 29, are allowable over the cited references.

V. Conclusion

It is respectfully submitted that all of the presently pending claims are in condition for allowance. Prompt reconsideration and allowance of the present application are therefore earnestly solicited.

Respectfully submitted,

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